

Wastewater Discharge Requirement Assistance for Rendering Plant

Sacramento, CA



Anaerobic Treatment Lagoon

A rendering company in the Central Valley was facing increasing pressure to reduce salt and nutrients in their land-applied wastewater, including compliance to the State's groundwater antidegradation policy. EKI worked closely with the Central Valley Regional Water Quality Control Board (CVRWQCB) staff to establish site-specific salinity and nitrogen effluent limitations, and an increase in current wastewater flow limitations set forth in the Waste Discharge Requirements (WDR). EKI's ability to clearly communicate the technical challenges facing the client as well as EKI's credibility and reputation for objective evaluations were key factors in establishing practical, site-specific water quality objectives that were acceptable to both the CVRWQCB and the client.

EKI performed several challenging technical evaluations to support adoption of the site-specific water quality objectives, such as:

- Completing technical evaluations of existing wastewater storage, treatment, and land application systems, including salinity and nitrogen source characterization studies and mass balances; salt and nutrient fate and transport; background groundwater quality evaluations; antidegradation analysis; evaluation of beneficial uses; focused bench-scale wastewater treatability studies, and evaluations of the effectiveness of the soil-crop system to assimilate nitrogen and salinity species.
- Preparing detailed water balances demonstrating sufficient pond capacity to achieve compliance with the CVRWQCB Order and the existing wastewater discharge permit.
- Developing and implementing a site-specific wastewater and groundwater monitoring and reporting program to evaluate salinity and nitrogen loading rates to surface impoundments and land application areas, and potential impacts to groundwater, in coordination with the CVRWQCB.
- Preparing a comprehensive flow diagram of water uses and flowrates to control influent salinity. This flow model was founded on an extensive series of flow measurements and on salinity testing of the waste streams. As a result, salt loadings to land disposal were reduced to acceptable levels.
- Developing cost-effective management strategies reducing salt loads by 80% to meet water quality objectives.
- Providing cost analysis and CEQA documentation.